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1939

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CHRONICLE OF THE INTERNATIONAL INSTITUTE OF AGRICULTURE

Dairy Products. — The International Dairy Federation requested the Institute to organise an international conference for the purpose of concluding international diplomatic conventions on (1) the regulation of condensed milk manufacture and trade, (2) the regulation of whole and skimmed milk powder manufacture and trade, (3) the standardisation of international methods of analysis of condensed milk and milk powders, (4) the regulation of blended cheese manufacture and trade.

The Secretary General and the Technical Bureau of the Institute, after preliminary agreement with the Federation, are now consulting with Governments on the proposed diplomatic conference.

Herd Books. — The second meeting of the Expert Committee on Herd Books will take place during the International Agricultural Congress to be held at Dresden from June 6 to June 12, 1939.

Paragraph *B* of the protocol of signature of the international Convention of October 14, 1936 on the standardisation of herd books requested the International Institute of Agriculture "to organise a meeting of experts responsible for the herd books of the signatory States, for the purpose of elucidating details of application of the measures provided for in the Convention".

This first meeting was held under the auspices and with the cooperation of the Netherlands Government during the International Congress of Agriculture held at the Hague From June 17 to 21, 1937. Item 12 of the report of this meeting reads: "it is desirable that the International Institute of Agriculture should in the near future call a meeting of experts for the purpose of studying methods of keeping herd books of meat and work cattle and determining what information should be given in the certificates on these animals used for international trade purposes".

In furtherance of this recommendation, the International Institute of Agriculture—after coming to an agreement with the International Office for Livestock Diseases on the suggestion made in the last part of item 9 of the Hague meeting relating to the standardisation by various countries of methods of diagnosis and eradication of tuberculosis, contagious abortion and mastitis, and with the German authorities—has decided to hold a second meeting of the Expert Committee on Herd Books on the occasion of the International Congress of Agriculture at Dresden (June 6-12, 1939).

The General Secretariat of the International Institute of Agriculture has transmitted the decisions relating to this second meeting, with the proposed agenda, to all Governments concerned. The Agenda comprises the following items.

(1) A brief report on the work of the Herd Book Offices of the various countries arising out of the international Convention of October 14, 1936, the experts' proposals at the Hague meeting and other suggestions aiming at an increasingly effective application of the Convention.

(2) The feasibility of herd books for meat and work cattle and an exchange of views on the information which should be given in certificates for purposes of international trade.

(3) The possibility of extending the 1936 Convention to other species of domestic animals.

(4) The opinion which was requested from the International Office for Livestock Diseases (Paris) on the standardization of the methods of diagnosis and eradication of tuberculosis, contagious abortion and mastitis.

The Governments have been requested to submit brief reports to the International Institute of Agriculture on items 1,2 and 3 and any suggestions they may wish to make on the questions included in item 4.

These reports will be discussed at the Dresden meeting.

BOOKS PRESENTED TO THE LIBRARY OF THE INTERNATIONAL INSTITUTE OF AGRICULTURE

Afrika; Beiträge zur Völker- und Wirtschaftskunde. Hamburg, Hanseatische Verlagsanstalt, 1938. 91 p. (Hansische Universität. Vorträge der 2. Auslandswoche 1938 der Hansischen Universität.)

Almanacco agrario italiano. Piccola enciclopedia agricola diretta da Arturo Marescalchi. v. 2. per l'anno 1939. Firenze, "Marzocco", [1939]. 492 p.

Annual cotton handbook for daily cable records of American, East Indian and Egyptian crops, etc. 67th Year of publication. Season 1937/38. London, Comtelburo, 1937. 349 p.

Annuario dell'Africa italiana e delle isole italiane dell'Egeo 1938/39. Anno 13° di pubblicazione. Roma, Castaldi, 1939. 1116, 164 p.

Annuario ordinamenti e gerarchie d'Italia. Anno 1939. 6ª ed. Milano, Ravagnati, [1939]. 1620 p.

Armbruster, L. Alte Graphik und Imkerei. Berlin-Zehlendorf, Verlag des Archiv für Bienenkunde, 1939. [4], 99 p. (Bücher des Archiv für Bienenkunde, hrsg. von. Ludwig Armbruster, Bd. 5.)

Arthold M. Die Weinbaugebiete und Weine der Ostmark. Ein Führer durch das ostmärkische Weinland. Wien, Agrarverlag Gesellschaft, 1938, 49 p.

Assemblée permanente des présidents des chambres d'agriculture. 9ème Session. Session ordinaire des 29-30 novembre 1938. Seance hors session du 1er décembre 1938. Comptes rendus (Tome 7). Amiens, Imp. Nouvelle, 1939. 708 p.

Association internationale de la science du sol. 6ème Commission. Comptes rendus Zürich 1937. B. Bern, [1938]. 603 p.

Ben-Shalom, A. Deep furrows; pioneer life in the collective in Palestine. Translated by Frances Burnce. New York, Hashomer Hatzair organization, [1937]. 303 p.

Bignami, P. Il grande Canale Muzza; la rete delle rogge derivate e il territorio irrigato. Milano, U. Hœpli, 1939. XV, 453 p. (Biblioteca tecnica.)

INTERNATIONAL BULLETIN
OF PLANT PROTECTION

1939 No. 5

DISCOVERIES AND CURRENT EVENTS *

Eritrea and Amhara: Locust Movements †

During January, 1939 an expert of the Agricultural Bureau of Eritrea made a caravan tour of the low-lying eastern plain from Ras Casar to Zula without noting any desert locusts (*Schistocerca gregaria*) or African migratory locusts (*Locusta migratoria migratorioides*). Observers were stationed at Mersa Taclai, Scheeb and at Zula.

Egg-pods and hoppers of *L. migratoria migratorioides*, however, were reported in the territories of the Commissariats of western Tigrai, in the western low-lying plain and in the Commissariat of Macallè, towards the end of the month.

Swarms were less numerous than in the previous months, though towards the end of January they increased somewhat disquietingly in certain areas. In the western low-lying plain of western Tigrai, fairly large swamrs, which however, never followed any definite direction, were frequently reported.

In comparison with December, 1938, the situation in Amhara had improved considerably.

Small swarms of *L. migratoria migratorioides* were still noted in the Commissariat of Gondar, in the basin of Lake Tana and in Curamba plain. No egg-pods were found.

The ordinary control measures were continued: threshing, ditches and poison bait.

A method which has given good results in the newly annexed territories is collection of the adults in the morning, when they are still inactive from the cold of the previous night.

In some areas where the land allowed of it, ploughing was carried out to unearth the eggs.

Estonia: Plant Diseases New to the Country §

Uropyxis sanguinea Magn. Reported for the first time on November 10, 1934 in Raadi Park, near Tartu, on the leaves of *Mahonia aquifolium*. This disease had already appeared in Latvia and in Finland some years previously.

Neofabraea corticola (Edgert) C. A. J. First observed in 1935 on a trunk of *Pyrus malus*. Now fairly widely spread.

* Under this and the next heading the countries are arranged in French alphabetical order.

† Communication from Dr. LUIGI M. BOLOGNA, Chief of the Agricultural Bureau of Eritrea, Asmara, transmitted to the Institute by the Government of the Colony.

§ Communication from Professor E. LEPIK, Director of the University Phytopathological Station, Tartu, Estonia.

Oidium euonymi-japonici (Arc.) Sacc. Introduced with plants of *Euonymus japonicus* from Central Europe, was first noted in 1935 at Paide; is now found in certain greenhouses.

Uncinula necator (Schw.) Burr. Introduced from Germany with plants of *Vitis vinifera*, it was first reported in 1936. The disease was only noted in one locality, and was stamped out by means of careful disinfection.

Botrytis paeoniae Oudem. Introduced from western Europe with some peony plants, was first reported in 1932. The disease is now to be found in certain regions.

Botrytis tulipae (Lib.) Lindb. Introduced from western Europe with tulip bulbs, it was first reported in 1937. At present the disease is of infrequent occurrence.

Fusarium conglutinans Wr. var. *callistephi* Beach. Was only reported in the summer of 1933, but probably had already been in the country for some time.

Pestalotia lupini Sor. Noted for the first time in 1935 in crops of *Lupinus perennis*.

Phyllosticta sojaecola Mass. Reported in 1935 on the leaves of *Glycine soja*.

Italy: The 'Fetola' or Yellow Spot of Citrus in Sicily *

During the last decade of December, 1938 when I was at Adrano in the province of Catania, several growers asked me about a serious disease of the orange, called here as in other parts of Sicily, 'fetola'.

This disease has only been observed in recent years in Adrano and in the other citrus areas of the Simeto Valley (localities of Aragona, Canalotto, Ruggeri, Carcaci, Cugno di Carcaci, Miraglia, Cavalera, Mandarano, Schittino, Marotta, Don Carlo, Ciappa, etc.), but it has developed to an alarming extent in the last two years. It is estimated that in some of the above-mentioned localities (*e. g.*, Aragona) a fifth or a even as much as a quarter of the present seasons's orange production is spoilt through 'fetola' or yellow spot. In view of the present prices obtained for oranges, this is a heavy loss.

The value of the fruits is appreciably reduced, as they cannot be classed as first grade oranges.

The skins of oranges attacked by 'fetola' show spots round in shape if isolated and more or less irregular if joined, slightly concave. The number of these spots varies: from only a few to 40 or even more per fruit. Each spot may spread over a surface of a few millimetres to several centimetres (fig. 1). The spots on the epicarp have a dotted aspect; this is due to the oil-bearing glands which are not attacked. When the air penetrates into the interglandular tissue, the oil therein dries up, the tissue turns a sulphur yellow colour and the spots have a reticulated appearance (fig. 2).

This disease generally appears in September and becomes more decided during the following months.

The disease differs from that known as 'petecchia' as the oranges attacked by the latter show brownish and more concave spots.

* Communication from Professor GIUSEPPE RUSSO, Laboratory of Agricultural Entomology of the University of Naples, Portici, Italy.

A disease similar to ' fetola ' has been known for several years in California where it is called fruit spotting. It was recently shown that this is due to

FIG. 1.

the attack of a small jassid, *Empoasca fabae*. It is probable that the ' fetola ' in Sicily is also due to insects belonging to the same family (genus *Empoasca*

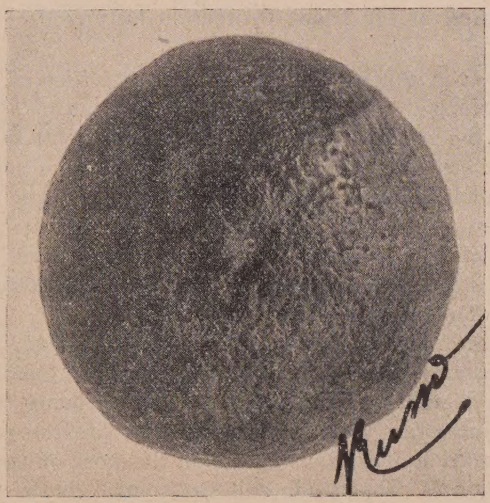

FIG. 2.

or one similar). This would confirm the opinion of some citrus-growers that the ' fetola ' is more extensive in the zones where cotton is cultivated. Cotton is a host plant of Jassids, which can easily change to citrus.

The subject is an important one, and a careful biological study of both the 'fetola' and cotton insects, with a view to obtaining an effective method of control, would be useful.

In California, to control the insects causing fruit spotting, spraying with the following mixture is now recommended:—

Calcium hydrate	6 kg.	(150 lb.)
Zinc sulphate	950 grams	(24 lb.)
Blood albumin	42 cc.	(1 pint)
Water	100 litres	(300 gallons)

This mixture exerts a repellent action. In West Indies and in Italian Somaliland, I obtained good results in controlling certain species of *Empoasca* by spraying the attacked plants with a 1 per cent. Bordeaux mixture, which also has a repellent action.

In Italy, a preparation similar to the American mixture could be tried, as also lime-sulphur wash (4-5 per cent.) mixed with sodium or lime caseinate (50 grams in 100 litres); the latter substance increases the adhesiveness of the liquid. Dusting the plants with sulphur mixed with pyrethrum or tobacco powder should also be tried. Treatment with powder or liquid preparations should begin several weeks before the first attack of the insects on the fruits.

Poland: Organization of the Plant Protection Service *

Plant protection in Poland is based on the activities of the 13 plant protection Stations attached to the Chambers of Agriculture. In these Stations is concentrated all the practical work done in this sphere in the various counties, in accordance with measures taken by the Government, administrative authorities and various social organizations. These Stations work in close collaboration with agricultural and horticultural experiment Stations, seed-testing Stations and schools of agriculture. Plant protection Stations are authorized to issue sanitary certificates for exports, signed by the directors of the Stations in their capacity of plant protection inspectors.

The Stations are in general maintained and controlled by the Ministry of Agriculture and Agrarian Reform, the Plant Protection Section of the Government Institute for Agricultural Research at Pulawy being the central service. Among the most important duties of this Section are the planning of control methods, the preparation of general reports on the work of the Plant Protection Service, the direction of propaganda and the control of the means of carrying on the campaign.

* Communication from Dr. J. Ruszkowski, Director of the Plant Protection Section, Government Institute for Agricultural Research, Puławy, Poland.

An annual meeting is held at the Ministry of Agriculture attended by representatives of the institutions engaged in plant protection or interested in the progress accomplished, and reports on this subject are presented. Moreover, the Pulawy Plant Protection Section invites the entire staff of the Service to its two annual meetings, one of which is held during the winter, in the capital, and the other during the summer, at one of the plant protection Stations, all Stations being visited in turn.

Two sections of the Central Institute are specially devoted to scientific work, namely, those for plant diseases and pests.

The Institute publishes two periodicals, one of which deals with the scientific work mentioned above and the other with practical matters. The latter is also the organ of the Plant Protection Service.

Southern Rhodesia: Locust Invasion, 1932-39 *

Monthly Report No. 74. January, 1939.

Winged swarms of the red locust (*Nomadacris septemfasciata*, Serv.) have been reported from the following districts during the month of January 1939, namely:— Lomagundi, Darwin, Mazoe, Mtoko, Umtali, Bikita, Victoria, Ndanga, Gwanda, and Belingwe.

All the swarms were in breeding condition and practically all were engaged in egglaying.

Hoppers have appeared in the districts of Lomagundi, Darwin, Mrewa, Inyanga, Melsetter (Chipinga), Bikita, Charter, Ndanga, Chibi, and Belingwe.

The hoppers are being destroyed in all accessible localities.

The position generally appears to be very similar to that obtaining during January, 1938, although rather fewer reports of locusts have been received. Hatchings appear to have commenced nearly two weeks earlier during the present season compared with last year.

Italian Somaliland: Locusts †

No locusts were reported in the Colony during January, February and March, 1939.

* Communication from the official correspondent of the Institute, Mr. RUPERT W. JACK, F. E. S., Chief Entomologist, Agricultural Laboratory, Department of Agriculture, Salisbury, Southern Rhodesia.

† Communication from Dr. LUIGI BOZZI, Chief of the Agricultural Services of Italian Somaliland, Mogadiscio, transmitted to the Institute by the Government of the Colony.

LEGISLATIVE AND ADMINISTRATIVE MEASURES

Germany. — A Law of October 1, 1938 relative to carrier-pigeons prohibits the shooting of these birds. Landowners are no longer allowed to capture pigeons found on their property during the sowing period. (*Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin, Anfang März 1939, 19. Jahrg., Nr. 3, S. 22).

*** A Decree of October 15, 1938 relative to the damage caused by wild rabbits prescribes that every effort should be made to eliminate these animals in fenced-in areas.

As many landowners have complained that the game law and police measures in force prohibit them from shooting the rabbits, it is suggested that the competent authorities should select trustworthy persons specially for the purpose of shooting the rabbits; a limited district will be assigned to each. Proprietors sustaining losses through rabbits may apply to these official huntsmen, who will be compensated for their expenses keeping the game. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. Februar 1939, Bd. XI, Nr. 1, S. 18-19).

*** By Circular of January 9, 1939, the Minister of Agriculture instructs that the number of potato varieties non-resistant to wart disease [*Synchytrium endobioticum*] still allowed for planting must be reduced to a minimum until finally eliminated in 1941. (*Ibid.*, S. 1-2).

*** An Ordinance of January 10, 1939 issued by the General Potato Union modifies the regulations relative to the trade in potatoes established by Ordinance No. 8 of June 20, 1935 [see this *Bulletin*, 1935, No. 9, pp. 203-204]. (*Ibid.*, S. 6-13).

*** An Ordinance of January 10, 1939 by the deputy of the Minister of Agriculture dealing with questions referring to seeds, revises the regulations relative to trade in seed potatoes. The regulations fixed by this Ordinance supplement those already laid down in respect to trade in potatoes (see below). The provisions are mostly of a phytosanitary nature.

A distinction is made between (*a*) choice potatoes ('Hochzucht'); (*b*) certified seed potatoes ('Anerkannter Nachbau') and (*c*) ordinary commercial potatoes (' Handelsaat ').

There are detailed provisions regarding quality. Account is taken of certain factors affecting quality: earth contained in consignements, slight defects, infraction of the regulations, serious injuries, diseases, damage caused by rot, moisture and frost, proportion of tubers not conforming to standard, wart disease. A table indicates the degrees of deterioration which the purchaser must accept and

the percentage of tubers below standard which give the right to a reduction in price or return of the consignment.

The diameter of round potatoes should not be lower than 3.4 cm. nor greater than 7 cm.; for oblong varieties, the diameter ranges from a minimum of 4 cm. to a maximum of 8 cm.

Among slight defects are included: rust marks, inner woody layers, green tubers, slight wart disease, cracked skin, etc.

Injuries produced by animals or any other cause which may reduce germinative power are considered as serious defects.

Potato plants for export should be inspected for both phytosanitary condition and quality, taking into account the regulations in force in the importing country. (*Ibid.*, S. 14-17).

Germany (Thuringia). — By Decree of January 24, 1939 modifying the Decree of March 18, 1935 relative to protecting newly sown fields against pigeons [see this *Bulletin*, 1935, No. 6, p. 133] proprietors of pigeons are required to prevent their birds from going into newly sown fields and gardens during the spring sowing period. This protection period is limited to four weeks in spring and four weeks in autumn. The period may be extended, however, to six weeks or even longer, if authorized by the Minister of Agriculture.

Landowners are allowed to capture any pigeons found on their property during the above-mentioned period. (*Amtliche Pflanzenschutzbestimmungen*, Berlin, 1. Februar 1939, Bd. XI, Nr. 1, S. 20).

*** An Ordinance of February 10, 1939 establishes that from this date the police authorities may no longer issue permits for shooting sparrows.

It is suggested that sparrows be controlled by destroying their nests and using the Schwing trap. (*Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin, Anfang März 1939, 19. Jahrg., Nr. 3 S. 22).

Chile. — The bean weevil (*Bruchus obsoletus*) having been found in the commune of Limache, Department of Valparaiso, Decree No. 811 of December 31, 1938 declares infested the whole of the zone where this pest was noted and makes control measures compulsory. (*Diario Oficial de la República de Chile*, Santiago, 20 de enero de 1939, año XLII, núm. 18.271, pag. 191).

United States of America. — The Notice of Quarantine No. 72 and the regulations supplemental hereto, approved on December 14, 1938 and effective on January 15, 1939, contains measures for preventing the spread of dangerous infestations of the white-fringed beetle (*Naupactus leucoloma*) and a closely related species of *Naupactus* in the States of Alabama, Florida, Louisiana, and Mississippi. (*B. E. P. Q. — Q. 72*, [Washington, D. C.], 1939, 5 pp.).

France. — A Ministerial Decree of February 15, 1939 appointing the members of the Advisory Committee for plant protection lays down that the Committee shall give its opinion on questions dealing with plant protection submitted to it by the Minister of Agriculture. It may submit to the Minister any proposals regarding its activities. The Committee is empowered to co-ordinate the research and experimental work carried out on the control of crop pests and shall determine the methods and products for general use. It shall advise assistance to be granted to agricultural organizations engaged in the control of crop pests as well as on the legal and regulation questions regarding crop protection.

By the same Ministerial Decree a Permanent Commission, presided over by the Director of Agriculture or his deputy, is constituted within the Committee. (*Bulletin de l'Office de Renseignements agricoles*, Paris, 1er mars 1939, année 1939, nº 5, p. 111-112).

Italy. — Royal Decree No. 2221 of July 29, 1938 lays down that the technical agricultural organizations for Libya and Italian East Africa are the Royal Agronomic Institute for Italian Africa [see this *Bulletin*, 1939, No. 4, p. 85], the agricultural Offices and the agricultural experiment Centres.

The control of the diseases and pests of crops is the province of the agricultural Offices which have the requisite means at their disposal.

The agricultural experiment Centres carry out scientific studies and research work dealing with the control of the diseases and pests of plants and agricultural products. (*Gazzetta Ufficiale del Regno d'Italia*, Roma, 15 marzo 1939, anno 80º, n. 63, pp. 1334-1337).

*** By Law No. 155 of January 5, 1939 the Royal Decree-Law No. 1781 of November 24, 1938 relative to the capture of sparrows with a view to protecting grain crops [see this *Bulletin*, 1939, No. 3, p. 56] is converted into Law. (*Ibid.*, 15 febbraio 1939, n. 38, p. 821).

*** Law No. 156 of January 5, 1939 converts into Law the Royal Decree-Law No. 1622 of September 5, 1938 relative to the protection of fruit trees [see this *Bulletin*, 1939, No. 2, pp. 32-34]. (*Ibid.*).

*** By Ministerial Decree of February 16, 1939, the control of the European corn borer (*Pyrausta nubilalis*) is compulsory in the provinces of Pesaro and Ancona, the method indicated in the Ministerial Decree of June 24, 1937 [see this *Bulletin*, 1937, No. 9, pp. 205-206] to be employed. (*Bollettino Ufficiale del Ministero dell'Agricoltura e delle Foreste*, Roma, 1º marzo 1939, anno XI, n. 5, pp. 505-506).

Morocco (French Zone of). — An Order of January 4, 1939 specifying the requirements regarding the export of onions from Morocco lays down, *inter alia*, that the onions exported must be free from parasites or disease. (*Bulletin Officiel*, Rabat, 20 janvier 1939, XXVIII[e] année, n° 1369, p. 70-71).

*** A second Order of the same date relative to melon exports prescribes that these fruits must be free from insects and disease. (*Ibid.*, p. 71-72).

New Zealand. — By Order of January 18, 1939, which may be cited as the Orchard and Garden Diseases Act Extension Order, 1939, the disease known as yellow dwarf disease (Allium virus 1) is declared to be a disease within the meaning of the Orchard and Garden Diseases Act, 1928. (*Serial Number 1939/2*, Wellington, 1939, 1 p.).

The Netherlands. — A Decree of February 21, 1939 specifies measures for the application of the Law of 1937 relative to the control of the diseases of flowering bulbs. (*Staatsblad van het Koninkrijk der Nederlanden*, 's-Gravenhage, den 28 Februari 1939, N° 653, blz. [1]-3).

Southern Rhodesia. — By Government Notice No 611 of December 16, 1938 concerning the regulations for the importation of plants, if 5 per cent. or more of any consignment of fruit is found to be infested with the apple codlin moth (*Cydia pomonella*) it shall be rejected, and reconsigned to the country of origin at the expense of the consignor or consignee or destroyed. If less than 5 per cent. is found to be so infested, the inspector may cause the whole consignment to be sorted and re-packed to his satisfaction. If the consignee or adressee or his agent is unable or unwilling to supply the necessary labour for this purpose, a fee of 3*d.* per tray or 1*s.* per bushel shall be charged for labour supplied. (*Colony of Southern Rhodesia Government Gazette*, Salisbury, December 16, 1938, Vol. XVI, No. 50, p. 951).

Yugoslavia. — Order No. 1129/II of January 11, 1939 gives a list of the countries to be considered in 1939 as being contaminated by wart disease of the potato (*Synchytrium endobioticum*), the Colorado beetle (*Leptinotarsa decemlineata*), the potato moth (*Phthorimaea operculella*), and the San José scale (*Aspidiotus perniciosus*). (*Službene Novine*, Beograd, 25 januara 1939, godina XXI, broj 18-IV, str. 37-38).

RECENT BIBLIOGRAPHY

ALLAN, J. M., HILL, A. V., and ANGELL, H. R. Downy mildew (blue mould) of tobacco: its control by benzol and other vapours in covered seedbeds. IV. *Journal of the Council for Scientific and Industrial Research*, Melbourne, 1938, Vol. 11, No. 3, pp. 247-253.
[*Peronospora tabacina*].

AMBROS, W[ilhelm]. Unsere Waldameise (*Formica rufa* L.) mit besonderer Berücksichtigung ihrer künstlichen Vermehrung. *Centralblatt für das gesamte Forstwesen*, Wien 1939, 65. Jahrg., Heft 1, S. 15-29. Literaturverzeichnis, S. 29.

AMBROS, Wilhelm. Die biologische Nonnenfalterkontrolle 1937. *Centralblatt für das gesamte Forstwesen*, Wien 1938, 64. Jahrg., Heft 9, S. [209]-223.
[*Porthetria monacha*].

ANDRES. Die Kornkäferbekämpfung 1938. *Wochenblatt der Landesbauernschaft Schleswig-Holstein*, Kiel 1938, 5. Jahrg., Folge 44, S. [1617]-1618, 1 Abb.
[*Calandra granaria*].

ANGELL, H. R., ALLAN, F. E., and HELY, F. W. The effect of *Urocystis tritici* Koern. on the extent of development of the roots and aerial parts of the wheat plant. II. *Journal of the Council for Scientific and Industrial Research*, Melbourne, 1938, Vol. 11, No. 3, pp. 256-257.

ANGERMAIER, L. Beobachtungen über Unkrautbekämpfung und Vermeidung von Lagerfrucht im Donaumoos. *Praktische Blätter für Pflanzenbau und Pflanzenschutz*, München 1938, XVI. Jahrg., Heft 9/10, S. 240-243, 1 Abb.

ARTEMIEVA, Z. S. A study of the races of the causative agent of tomato bacterial canker. *Plant Protection*, Leningrad, 1938, No. 17, pp. 137-140.
[In Russian, with title also in English. — *Aplanobacter michiganense*].

ASHBY, Helen, ASHBY, Eric, RICHTER, Harald, BÄRNER, Johannes. German-English botanical terminology. An introduction to German and English terms used in botany, including plant physiology, ecology, genetics, and plant pathology. Englisch–deutsche botanische Terminologie. Eine Einführung in die in Deutschen und Englischen in der Botanik, einschliesslich Pflanzenphysiologie, Ökologie, Vererbungslehre und Pflanzenpathologie gebräuchlichen Ausdrücke. London, Thomas Murby & Co., 1938, XI + 195 pp. (Murby's German–English Terminologies. General Editor: William R. Jones).

ASUYAMA, H. *Phyllosticta ricini* Rostr. and *Phomopsis aucubae* (Westend.) Trav. *Annals of the Phytopathological Society of Japan*, Tōkyō, 1938, Vol. VIII, No. 2, pp. [167]- 169, figs. 1-2.
[In Japanese, with title also in English].

BARRONS, Keith C. Studies of the nature of root knot resistance. *Journal of Agricultural Research*, Washington, D. C., 1939, Vol. 58, No. 4, pp. 263-271, pl. 1.
[*Heterodera marioni*].

BEBBINGTON, A. G., and ALLAN, W. The stainer position in Northern Rhodesia. *Empire Cotton Growing Corporation. Third Conference on Cotton Growing Problems, September 1938. Report and Summary of Proceedings*, London, 1938, pp. 106-110.
[*Dysdercus* spp.].

BEI-BIENKO, G. J. On the rôle of harvesting machinery in the control of insect pests. *Plant Protection*, Leningrad, 1938, No. 17, pp. 53-[60]. [Bibliography], p. [60].
[In Russian, with title and summary also in English].

BERTRAM, L. Die Alternaria–Knollenfäule der Kartoffel. *Die kranke Pflanze*, Dresden 1939, 16. Jahrg., Heft 2, S. 26-32, 2 Abb.
[*Alternaria solani*].

BIRAGHI, A[ntonio]. Determinazione della presenza di fluoro nei tessuti vegetali colpiti da emanazioni gassose. *Bollettino della R. Stazione di Patologia vegetale* [di Roma], Firenze, 1938, anno XVIII, n. ser., n. 3, pp. 360-366, tav. IX.

BLUNCK, H[ans]. Viruskrankheiten bei Pflanzen. *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1939, 49. Bd., Heft 3, S. 177-222. Schrifttum, S. 214-222.

BODNÁR, J. Vergleichende biochemische und chemische Versuche mit Mineralölemulsion, Nikotin und Kaliseife gegen Blattläuse. *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1939, 49. Jahrg., Heft 4, S. 276-281. Schrifttum, S. 281.
[Aphididae].

BÖNING, Karl. Fragen der Anbautechnik und Krankheitsbekämpfung im Meerrettichbau. *Praktische Blätter für Pflanzenbau und Pflanzenschutz*, München 1938, XVI. Jahrg., Heft 9/10, S. [205]-233, Abb. 1-12. Schriftenverzeichnis, S. 233.
[*Nasturtium armoracia*].

BORZINI, G[iovanni]. Una particolare malattia della vite. *Bollettino della R. Stazione di Patologia vegetale* [di Roma], Firenze, 1938, anno XVIII, n. ser., n. 3, pp. 342-359, figg. 1-10.
[A disease caused by *Alternaria tenuis* at Tripoli, Libya].

BORZINI, G[iovanni]. Anomalie di sviluppo in piante di mais "Zea mays L." in conseguenza di un attacco di nematodi. *Bollettino della R. Stazione di Patologia vegetale* [di Roma], Firenze, 1938, anno XVIII, n. ser., n. 3, pp. 383-395, figg. 1-3.
[*Diplogaster longicaudata*, *Anguillulina* sp. (near to *A. pratensis*), and *Rhabditis* sp.].

BÖTTCHER, Friedrich Karl. Untersuchungen über den Einfluss von Pflanzenschutzmitteln auf die Bienen. IV. Teil: Die Wirkung von Derris auf die Bienen. *Zeitschrift für angewandte Entomologie*, Berlin 1939, Bd. XXV, Heft 4, S. [681]-702, Abb. 1-4. Literatur, S. 701-702.

BRAMSTEDT, Fritz. Die Bekämpfung der Obstmade durch Verwendung von Giftködern gegen den Falter. *Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin 1939, 19. Jahrg., Nr. 2, S. 10-12. Literatur, S. 12.
[*Carpocapsa* (*Cydia*) *pomonella*].

BROWN, W. The persistence of parasites in the soil as influenced by soil treatment. *Empire Cotton Growing Corporation. Third Conference on Cotton Growing Problems, September, 1938. Report and Summary of Proceedings*, London, 1938, p. 72.

BUCKSTEEG, Wilhelm. Untersuchungen über den Sporenflug bei Monilia als Grundlage für die chemische Bekämpfung. Vorläufige Mitteilung. *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1939, 49. Jahrg., Heft 4, S. 252-258, Abb. 1-2. Literatur–Verzeichnis, S. 258.

BUHL, Claus. Beitrag zur Frage der Einwirkung von Überschwemmungen auf Maikäferengerlinge (Melolontha melolontha L.). *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1939, 49. Jahrg., Heft 4, S. 271-275.

BURKHOLDER, Walter H. The taxonomy and nomenclature of the phytopathogenic bacteria. *Phytopathology*, Lancaster, Pa., 1939, Vol. 29, No. 2, pp. 128-136. Literature cited, pp. 135-136.

BUSNEL, René-Guy. Le doryphore de la pomme de terre et les nouveaux espoirs de lutte biologique. *Revue Horticole*, Paris, 1939, 111ème année, nº 15, p. 358-360, fig. 250-253.
[*Leptinotarsa decemlineata*].

CARRERA, César. Enfermedades mas comunes en el lino. "Granos", Buenos Aires, 1938, nº 13, págs. 14 a 18.
[*Septoria linicola, Fusarium lini, Melampsora lini*].

CASHMORE, A. B. Cape tulip, *Homeria collina* var. *aurantiaca* Sweet. Life history studies. *Journal of the Council for Scientific and Industrial Research*, Melbourne, 1938, Vol. 11, No. 3, pp. 233-238, fig. 1.

CHAPMAN, P. J. The plum curculio as an apple pest. *New York State Agricultural Experiment Station. Bulletin No. 684*, Geneva, N. Y., 1938, 75 pp., 35 figs. Literature cited, pp. 73-75.
[*Conotrachelus nenuphar*].

CHERIAN, M. C., and BASHEER, Mohamed. *Tetrastichus sokolowskii* Kurdj (family Eulophidae)— a larval parasite of *Plutella maculipernis* in South India. *Proceedings of the Indian Academy of Sciences*, Bangalore, 1939, Vol. IX, Sec. B, No. 2, pp. 87-98, figs. 1-6. References, p. 98.

CHERIAN, M. C., and SUNDARAM, C. V. Notes on the life-history and habits of *Dacus brevistylus* Bezzi (family Trypetidae), a pest of *Coccinia indica* fruits. *The Indian Journal of Agricultural Science*, Delhi, 1939, Vol. IX, Pt. 1, pp. 127-131, pl. VI. References, p. 131.

CHERNYSHEV, P. K. On the necessity of modifying the method of estimating the infectation of agricultural products with mites. *Plant Protection*, Leningrad, 1938, No. 17, pp. 112-115, figs. 1-2. [Bibliography], p. 195.
[In Russian, with title also in English].

CIFERRI, Raffaele. Una possibile causa di dislocazione dei grandi centri coloniali di cultura. *Rivista di Biologia Coloniale*, Roma, 1938, vol. I, fasc. VI, pp. [459]-466.
[With titles and summaries also in French, English and German:— 'Une cause possible de dislocation des grands centres coloniaux de culture'. — 'The possible reason of the dislocation of the big colonial centres of culture'. — 'Eine wahrscheinliche Ursache der Verschiebung der grossen Anbauzentren in den Kolonien'. — The author suggests that one of the probable causes of the dislocation of the large colonial centres of cultivation of the more important tropical crops is the presence of serious parasitic diseases in the original centres of culture].

CLEARE, L. D. A water rat (*Hoplochilus sciureus berbicensis* Morrison-Scott) damaging sugar-cane in British Guiana. *The Agricultural Journal of British Guiana*, Georgetown, 1938, Vol. IX, No. 4, pp. [217]-229, pls. XIV-XVI.

CLEARE, L. D. Damage caused to rum puncheons by boring beetles. *The Agricultural Journal of British Guiana*, Georgetown, 1938, Vol. IX, No. 4, pp. [237]-245.
[*Xyleborus*].

CONDURSO, Gaetano. Metodi pratici ed elementari per la difesa contro il Lasioderma serricorne. *Bollettino Tecnico del Regio Istituto Sperimentale per le Coltivazioni dei Tabacchi "Leonardo Angeloni"*, Scafati, 1938, anno XXXV, n. 4, pp. [231]-244, figg. 1-4.
[With title and summary also in English:— 'Simple methods for the control of cigarette beetle (*Lasioderma serricorne*)'].

CORDON, T. C., and HARNSELER, [illegible] solani. *Soil Science*, Baltimore, 1939, Vol. 47, No. 3, pp. 207-215, pl. 1. References, pp. 213-214.
[A bacterium identified as a rough strain of *Bacillus simplex* was found to produce a diffusible, heat-stable substance in both solid and liquid media which may inhibit growth or cause death of *Rhizoctonia solani*].

CURRIE, G. A., and FYFE, R. V. [illegible] into Australia for the control of weeds. *Journal of the Council for Scientific and Industrial Research*, Melbourne, 1938, Vol. 11, No. 4, pp. [289]-301. References, p. 301.
[*Chrysolina* (*Chrysomela*) *varians*, *C. hyperici*, *C. brunsvicensis*, *Anaitis plagiata* and *A. efformata* on *Hypericum perforatum*; *Tyria jacobaeae* on *Senecio jacobaea*].

DALMASSO, Giovanni. L'oidio della vite. Prepararsi in tempo per la lotta. *Giornale di Agricoltura della Domenica*, Roma, 1939, anno XLIX, n. 13, pp. 115-116.
[*Uncinula necator*].

† DAVIES, W. Maldwyn. The aphis *Myzus persicae* Sulz in selected districts of Scotland. (Summarised from the results of a Survey made in 1936). *The Scottish Journal of Agriculture*, Edinburgh, 1938, Vol. XXI, No. 3, pp. 249-258.

DAXER, H. Versuche über die Wirkung [illegible] *Pflanzenkrankheiten* (*Pflanzenpathologie*) *und Pflanzenschutz*, Stuttgart 1939, 45. Jahrg., Heft 4, S. [225]- 251, Abb. 1-10. Literaturverzeichnis, S. 250-251.

DAY, M. F. Preliminary observations on the gaseous environment of *Eutermes exitiosus* Hill (Isoptera). *Journal of the Council for Scientific and Industrial Research*, Melbourne, 1938, Vol. 11, No. 4, pp. 317-327, fig. 1, graphs 1-5. Literature cited, p. 325.

DELMAS, R[obert]. Le ver des pommes ou carpocapse (*Cydia pomonella* L.). *Le Progrès Agricole et Viticole*, Montpellier, 1939, 56e année, nº 2, p. 30-33, 1 pl. en coul.; nº 3, p. 60-62; nº 4, p. 79-82; nº 5, p. 92-95; nº 6, p. 117-120.

DE MESA, Alejandro. Camagon and its pests. *The Philippine Journal of Forestry*, Manila, 1938, Vol. 1, No. 4, pp. 371-381, pls. 1-3. References, p. 380.
[*Catopsilia crocale*, *Taragama castanea*, *Rhodoneura disparalis*, *Blenina pulva*, *Orgyia postica*, *Metanastria hyrtaca*, *Metapocyrtus profanus*, *Coptorhynchus waltoni*, *Neopyrgops granosus*, *Pachyrrhynchus reticulatus*, *Schizophyllum commune*, *Irpex* sp., *Fomes applanatus* (*Ganoderma applanatum*) on *Diospyros discolor*].

DENNIS, R. W. G. Studies on Solanum virus 4. *Phytopathology*, Lancaster, Pa., 1939, Vol. 29, No. 2, pp. 168-177, fig. 1. Literature cited, p. 177.

DUCKER, H. C. Diseases and pests of cotton. A brief note on the present situation in Nyasaland. *Empire Cotton Growing Corporation. Third Conference on Cotton Growing Problems, September, 1938. Report and Summary of Proceedings*, London, 1938, pp. 111-113.

DU TOIT, Roscar, and DU TOIT, Ernest. Rhenoster bush as a weed. *Farming in South Africa*, Pretoria, 1938, Vol. XIII, No. 152, pp. 429-430, 445, figs. 1-4.
[*Elytropappus rhinocerotis*].

EBERLE, Georg. Hallimasch und Sparriger Schuppling. [illegible] a. M. 1938, 68. Bd., Heft 9, S. 401-464, Bilde 1-3.
[*Clitocybe mellea*, *Pholiota squarrosa*].

ESSLEMONT, J. M. Observations on the control of potato-slugs [illegible] *of Agriculture*, Edinburgh, 1938, Vol. XXI, No. 2, pp. 147-152, figs. 1-2.
[*Agriolimax agrestis*, *Arion circumscriptus*].

FEYTAUD, J[ean]. Où en sommes-nous avec le doryphore ? *Le Bulletin Agricole*, Paris, 1939, 59e année, nº 1926, p. 21-23.
[*Leptinotarsa decemlineata*].

FISCHER, Hermann. Untersuchungen über das Durchdringungsvermögen von Blausäure bei Packmaterial für Baumschulpflanzen. *Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin 1939, 19. Jahrg., Heft 3, S. 19-20; Heft 4, S. 32-33. Schriften, S. 33.

FITTSCHEN, H. H. Weitere Beiträge zur Züchtung steinbrandresistenter Weizensorten. *Phytopathologische Zeitschrift*, Berlin 1939, Bd. XII, Heft 2, S. [169]-218, Abb. 1-6. Schriftenverzeichnis, S. 216-218.
[*Tilletia tritici*].

FOISTER, C. E., and GREGOR, Mary J. F. Spur blight of raspberry in Scotland. *The Scottish Journal of Agriculture*, Edinburgh, 1938, Vol. XXI, No. 2, pp. 163-166, pls. I-II. Literature, p. 166.
[*Didymella applanata*].

FRANCKE-GROSMAN, Helene. Über das Zusammenleben von Holzwespen (Siricinae) mit Pilzen. *Zeitschrift für angewandte Entomologie*. Berlin 1939, Bd. XXV, Heft 4, S. [647]-680, Abb. 1-18. Literatur, S. 679-680.

FRANZ, Elli. Die Obstbaum-Minier-Motte (*Lyonetia clerkella* L.). *Natur und Volk*, Frankfurt a. M. 1938, 68. Bd., Heft 9, S. 459-461, Bilde 1-5.

FREYBERG, W., und LAUE, G. Wildschutz und Feldmausbekämpfung. *Nachrichtenblatt für der Deutschen Pflanzenschutzdienst*, Berlin 1939, 19. Jahrg., Nr. 2, S. [9]-10. Literatur, S. 10.

FRYER, J. C. F., [and] MILES, H. W. Pests and parasites. *The Journal of the Royal Agricultural Society of England*, London, 1938, Vol. 99, pp. 380-414. References, pp. 412-414.

GÄBLER, Hellmuth. Schädigungen an Laub- und Nadelholz durch Novosil und verwandte Stäubemittel und deren Wirkung auf Nonnenraupen und Nematuslarven. *Zeitschrift für angewandte Entomologie*, Berlin 1939, Bd. XXV, Heft 4, S. [609]-627, Abb. 1-2. Literatur, S. 627.
[*Lymantria monacha, Lygaeonematus pini*].

GABOTTO, L[uigi]. Comportamento della peronospora e dell'oidio nella campagna 1938. *Il Coltivatore e Giornale Vinicolo Italiano*, Casale Monf., 1939, anno 85º, n. 6, pp. 69-70.
[*Plasmopara viticola, Uncinula necator*].

GANDARA, Guillermo. La rotenona, nuevo insecticida. *Agricultura*, México, D. F., 1939, tomo II, núm. 10, págs. 21 a 23, 4 figs.

GÄUMANN, Ernst. Ueber die Nomenklatur zweier Rostpilze. *Phytopathologische Zeitschrift*, Berlin 1939, Bd. XII, Heft 2, S. 229-231.
[*Puccinia cribrata* (non *P. vincae*) on *Vinca major*; *P. rivalis* (syn. *P. asperulae – aparines*) on *Asperula aparine* (*A. rivalis*)].

GÖSSWALD, Karl. Richtlinien zur beschleunigten Heranzucht von Larven des Hausbocks *Hylotrupes bajulus* L. *Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin 1939, 19. Jahrg., Nr. 3, S. [17]-19. Literatur, S. 19.

GRIGORIEVA, T. G. On the methods of estimating soil fauna. *Plant Protection*, Leningrad, 1938, No. 17, pp. 97-[110], figs. 1-5. [Bibliography], p. 109.
[In Russian, with title and summary also in English].

HANNO, Kurt. Anlockversuche bei *Lymantria monacha* L. *Zeitschrift für angewandte Entomologie*, Berlin 1939, Bd. XXV, Heft 4, S. [628]-641, Abb. 1-3.

HARTLEY, B. J. Damage to cotton caused by termites. *Empire Cotton Growing Corporation. Third Conference on Cotton Growing Problems, September, 1938. Report and Summary of Proceedings*, London, 1938, p. 87.

HASHIOKA, Yoshio. Specialization in *Sphaerotheca fuliginea* (Schlecht.) Poll. *Annals of the Phytopathological Society of Japan*, Tōkyō, 1938, Vol. VIII, No. 2, pp. [113]-123, fig. 1. [Bibliography], p. 122.
[In Japanese, with title and summary also in English].

HEINZE, K. Spritzversuche zur Abtötung viruskranker Pflanzen in Kartoffelhochzuchtbeständen und zur vorzeitigen Krautabtötung. *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1939, 49. Bd., Heft 3, S. [129]-142, Abb. 1-3. Schriftenverzeichnis, S. 141-142.

HELM, A. Zur Pflege der Spritzgeräte. *Die kranke Pflanze*, Dresden 1939, 16. Jahrg., Heft 2, S. [21]-24.

HELY, F. W., ALLAN, F. E., and ANGELL, H. R. Bunt infection and root development in wheat. *Journal of the Council for Scientific and Industrial Research*, Melbourne, 1938, Vol. 11, No. 3, pp. 254-255. Literature cited, p. 255.
[*Tilletia tritici*, *T. levis*].

HEROLD, W. Neuere Beobachtungen über das Wandern der Wanderratte (*Epimys norvegicus* Erxl.). *Mitteilungen der Gesellschaft für Vorratsschutz E. V.*, Berlin 1939, 15. Jahrg., Nr. 2, S. 22-24.

HILDEBRAND, E. M. Studies on fire-blight ooze. *Phytopathology*, Lancaster, Pa., 1939, Vol. 29, No. 2, pp. 142-155, figs. 1-4. Literature cited, pp. 155-156.
[*Erwinia amylovora* = *Bacillus amylovorus*].

HIRAI, Tokuzo. Diseases of the banana in transport from Formosa. *Annals of the Phytopathological Society of Japan*, Tōkyō, 1938, Vol. VIII, No. 2, pp. [145]-166, figs. 1-11. [Bibliography], pp. 164-165.
[In Japanese, with title and summary also in English. — Physiological and cryptogamic diseases (*Thielaviopsis paradoxa*, *Botryodiplodia theobromae*, *Gloeosporium musarum*, *Macrophoma musae*, *Fusarium* spp., *Corticium centrifugum*, *Rhizopus nigricans*)].

HIRATA, K. A general view on the host range of powdery mildews. *Annals of the Phytopathological Society of Japan*, Tōkyō, 1938, Vol. VIII, No. 2, pp. [170]-178. [Bibliography], pp. 176-178.
[In Japanese, with title also in English].

HODSON, W. E. H., and JARY, S. G. A new insect pest of chrysanthemum. *Agriculture*, London, 1939, Vol. XLVI, No. 1, pp. 54-56, figs. 1-3.
[*Paroxyna misella*].

HOLMES, Francis O. The Chilean tomato, Lycopersicon chilense, as a possible source of disease resistance. *Phytopathology*, Lancaster, Pa., 1939, Vol. 29, No. 2, pp. 215-216, fig. 1.

HOLZ, W. Eine Methode zur Prognose des Askosporenfluges von *Fusicladium dendriticum* (Wallr.) Fckl. (Vorläufige Mitteilung). *Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin 1939, 19. Jahrg., Nr. 2, S. 12-13, 1 Abb. Schriftenverzeichnis, S. 13.

HORNBOSTEL, W. Kann Beauveria densa (Link) auch die Eier des Maikäfers befallen? *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1939, 49. Bd., Heft 3, S. 142-144, Abb. 1-3.
[*Beauveria densa* and *Melolontha*].

HUSAIN, M. Afzal, TREHAN, Kidar Nath, and VERMA, Piare Mohan. Economics of field-scale spraying against the white-fly of cotton (*Bemisia gossypiperda* M. & L.). *The Indian Journal of Agricultural Science*, Delhi, 1939, Vol. IX, Pt. 1, pp. 109-126, fig. 1.

IWATA, Yosito. Studies on the penetration phenomena in *Pseudoperonospora cubensis* Berk. et Curt. *Annals of the Phytopathological Society of Japan*, Tōkyō, 1938, Vol. VIII, No. 2, pp. [124]-144, figs. 1-6. [Bibliography], pp. 142-143.
[In Japanese, with title and summary also in English].

JACK, Rupert W. Southern Rhodesia. Locust invasion, 1932-39. Monthly Report No. 74. January, 1939. *The Rhodesia Agricultural Journal*, Salisbury, 1939, Vol. XXXVII, No. 3, p. 245.
[*Nomadacris septemfasciata*].

KATSER, Annie. Ein Beitrag zur Anwendung des Antagonismus als biologische Bekämpfungsmethode unter besonderer Berücksichtigung der Gattungen Trichoderma und Phytophthora. *Bollettino della R. Stazione di Patologia vegetale* [di Roma], Firenze, 1938, anno XVIII, n. ser., n. 2, pp. 195-217; n. 3, pp. [221]-330, Abb. 1-18, Taf. V-VIII. Literaturverzeichnis, pp. 326-329.
[With title and summary also in Italian:— 'Contributo sull'applicazione dell'antagonismo fra i funghi nella lotta biologica con particolare riguardo ai generi Phytophthora e Trichoderma'. — *Phytophthora citrophthora, Phyt. parasitica* and *Trichoderma koningi*].

KATSER, Annie. Weitere Studien zur Anwendung des Antagonismus als praktische Bekämpfungsmethode des Keimlingssterbens der Tomaten. *Bollettino della R. Stazione di Patologia vegetale* [di Roma], Firenze, 1938, anno XVIII, n. ser., n. 3, pp. 367-382, Abb. 1-2, Taf. X-XIII. Literaturverzeichnis, p. 382.
[With title and summary also in Italian:— 'Ulteriori ricerche per l'applicazione pratica dell'antagonismo come mezzo di lotta per la moria delle piantine di pomodoro'. — *Phytophthora parasitica*].

KIRCHNER, H.-A. Laufkäferschäden an Erdbeeren. *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1939, 49. Jahrg., Heft 4, S. 267-271, Abb. 1-6. Schriftennachweis, S. 271.
[*Carabus* spp., *Pseudophonus* spp., *Omaseus vulgaris, Anisodactylus binotatus, Poecilus cupreus*].

KLOTZ, L. J. Water damage to a citrus relative, Fortunella margarita. *Phytopathology*, Lancaster, Pa., 1939, Vol. 29, No. 2, pp. 214-215, fig. 1.

KONDŌ, Mantarō. Untersuchungen über Unkrautsamen Japans. II. Gramineae (2). *Berichte des Ōhara Instituts für landwirtschaftliche Forschungen*, Kurashiki 1938, Bd. VIII, Heft 2, S. [147]-162, Fig. 16-30.

KONDŌ, Mantarō, KASAHARA, Yasuo, und TERASAKA, Yūshi. Untersuchungen über Unkrautsamen Japans. III. Cyperaceae (1). *Berichte des Ōhara Instituts für landwirtschaftliche Forschungen*, Kurashiki 1938, Bd. VIII, Heft 2, S. [163]-180, Fig. 1-32.

KONDŌ, M[antarō], TAKAHASHI, R., und TERASAKA, Y[ūshi]. Berichte über die Tätigkeit des Ausschusses für die Samen der warmen Klimate. Fünfte Mitteilung. Vergleichende Untersuchungen der Samen von *Chrysanthemum cinerariaefolium* Bocc., 1937. *Berichte des Ōhara Instituts für landwirtschaftliche Forschungen*, Kurashiki 1938, Bd. VIII, Heft 1, S. [1]-9.

Kościelny, Stanisław. Wrażliwość niektórych odmian wiśni (*Prunus cerasus* L.) na przymrozki wiosenne w roku 1938 w okolicy Poznania. *Roczniki Nauk Rolniczych i Leśnych*, Poznań 1939, tom XLVI, zeszyt 1, str. [47]-64, fot. 1-2. Literatura, str. 63.
[In Polish, with title and summary also in English: — 'Sensitivity to spring-frost-injuries of some varieties of the sour cherry (*Prunus cerasus* L.) in the region of Poznań (Poland)].

Kostandian, L. V. On the biology of *Phytoecia rufimana* Schrank. *Plant Protection*, Leningrad, 1938, No. 17, pp. 122-124.
[In Russian, with title also in English].

Kotthoff. Eine neue Pilzkrankheit an Edelginster. *Die kranke Pflanze*, Dresden 1939, 16. Jahrg., Heft 2, S. 24-26, 3 Abb.
[*Ceratophorum setosum* on *Cytisus hybridus*].

Kunike, Georg. Beiträge zur Lebensweise und Bekämpfung der Mehlmotte, Ephestia kuehniella Z. (Pyralidae, Phycitinae). *Zeitschrift für angewandte Entomologie*, Berlin 1939, Bd. XXV, Heft 4, S. [588]-608, Abb. 1-12.

Kutsevol, E. A. On the methods of experimental infection of barley with covered smut (*Ustilago hordei* Kellerm. et Sw.). *Plant Protection*, Leningrad, 1938, No. 17, pp. 86-[88].
[In Russian, with title and summary also in English].

Lambert, Edmund B. A spore isolator combining some of the advantages of the La Rue and Keitt methods. *Phytopathology*, Lancaster, Pa., 1939, Vol. 29, No. 2, pp. 212-214, fig. 1.

Leach, J. G., Decker, Phares, and Becker, Hannah. Pathogenic races of Actinomyces scabies in relation to scab resistance. *Phytopathology*, Lancaster, Pa., 1939, Vol. 29, No. 2, pp. 204-209, figs. 1-4. Literature cited, pp. 208-209.

Lehmann, Hans C. Luzerneschädlinge. 5. Der Massenwechsel (Gradation) der Luzerneblüten-Gallmücke (Contarinia medicaginis Kieffer) und seine Vorhersage. *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1939, 49. Jahrg., Heft 4, S. 258-267. Schriftenverzeichnis, S. 266-267.

Lohwag, Kurt. Ganoderma resinaceum Boud., Erreger einer charakteristichen Fäule. *Centralblatt für das gesamte Forstwesen*, Wien 1938, 64. Jahrg., Heft 10, S. 258-260, Abb. 1-2.

Long, H. C. Eradication of cornfield weeds. *Agriculture*, London, 1939, Vol. XLVI, No. 1, pp. 51-53.

Long, H. C., [and] Fenton, E. Wyllie. The story of the bracken fern. *The Journal of the Royal Agricultural Society of England*, London, 1938, Vol. 99, pp. 15-36, figs. 1-6. References, pp. 34-36.
[*Pteridium aquilinum*].

Lukianovich, F. K. The significance of the problem of the nutritional relationships of herbivorous insects. *Plant Protection*, Leningrad, 1938, No. 17, pp. 15-[24]. [Bibliography], pp. 23-[24].
[In Russian, with title and summary also in English].

Madariaga, Alfonso. Datos históricos acerca de la aparición del gusano rosado (Pectinophora gossypiella Saunders) en la República Mexicana. *Boletín de la Compañía Administradora del Guano*, Lima-Perú, 1938, vol. XIV, núm. 9, págs. 359 a 364, 1 lám.

Maier, Willi. Die fungizidwirksamen Kupfermengen bei der Blauspritzung der Obstbäume. *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1939, 49. Bd., Heft 3, S. 160-176, Abb. 1-3. Schriftenverzeichnis, S. 175-176.

MALAN, Carlo E. Primi dati sulla presenza e la diffusione della *Calonectria graminicola* (Berk. et Brme) Wr. sulla segale nella zona delle Alpi Cozie. *Nuovo Giornale Botanico Italiano* (Nuova serie), Firenze, 1938, vol. XLV, n. 4, pp. 611-614.

MALENOTTI, Ettore. Osservazioni sulla fumaggine della vite nel Trevisano. *Atti e Memorie della Accademia di Agricoltura Scienze e Lettere di Verona*, Verona, 1938, ser. V, vol. XVI, pp. [75]-79.
[*Capnodium salicinum* and *Pseudococcus citri*].

MALENOTTI, Ettore. Interruzione artificiale di diapausa in *Cydia molesta*, Busck. *Atti e Memorie della Accademia di Agricoltura Scienze e Lettere di Verona*, Verona, 1938, ser. V, vol. XVI, pp. [177]-186, 1 diagr.

MALENOTTI, Ettore. Solforazioni contro il "verme" del pesco. *Atti e Memorie della Accademia di Agricoltura Scienze e Lettere di Verona*, Verona, 1938, ser. V, vol. XVI, pp. [187]-190.
[*Cydia molesta*].

MANVILLI, V[enanzio]. Rame e soda nel piano autarchico. *Bullettino dell'Agricoltura*, Milano, 1939, anno 73°, n. 10, p. 2.

MARLAND, A. T. The speed of infection of oats with uredospores (*Puccinia coronifera* Kleb.). *Plant Protection*, Leningrad, 1938, No. 17, pp. 134-137. [Bibliography], p. 137.
[In Russian, with title also in English].

MCKINSTRY, A. H. Major pests of cotton in Southern Rhodesia. *Empire Cotton Growing Corporation. Third Conference on Cotton Growing Problems, September, 1938. Report and Summary of Proceedings*, London, 1938, pp. 101-103.
[*Empoasca facialis, Heliothis obsoleta, Diparopsis castanea, Dysdercus* spp.].

MCNEW, George L. Differential reaction of apple varieties to *Gymnosporangium juniperi-virginianae*. *Agricultural Experiment Station Iowa State College of Agriculture and Mechanic Arts. Research Bulletin 245*, Ames, Iowa, 1938, pp. [117]-142, figs. 1-6. Literature cited, pp. 141-142.

MEIKLEJOHN, Jane. The starling: friend or enemy ? *The Journal of the Royal Agricultural Society of England*, London, 1938, Vol. 99, pp. 37-52, 1 map. References, p. 52.
[*Sturnus vulgaris vulgaris*].

MÉNDEZ C., Rómulo. Nuevas observaciones e hipótesis sobre el "ojo de gallo" *C N A*, San Pedro de Montes de Oca, República de Costa Rica, 1939, año IV, tomo IV, núms. 1 y 2, págs. 21 a 24.
[*Omphalia flavida*].

MILAN, Angelo. Sul "carbone volante" del grano in rapporto all'accestimento delle piante. *Nuovo Giornale Botanico Italiano* (Nuova serie), Firenze, 1939, vol. XLVI, n. 1, pp. 149-157.
[*Ustilago tritici*].

MILBRATH, J. A. Tomato tip-blight virus. *Phytopathology*, Lancaster, Pa., 1939, Vol. 29, No. 2, pp. 156-168, figs. 1-4. Literature cited, p. 168.

MOORE, W. C. New and interesting plant diseases. I. *Transactions British Mycological Society*, London, 1939, Vol. XXII, Pts. III & IV, pp. 264-267, pl. XVII. References, p. 267.
[*Phyllosticta angulata* on apple and *Haplobasidium pavoninum* on *Aquilegia*].

NEUWEILER, E. Unkrautvertilgung im Getreide mit chemischen Mitteln. *Landwirtschaftliches Jahrbuch der Schweiz*, Bern 1939, LIII. Jahrg., Heft 1, S. [1]-14, 1 Abb.
[With title and summary also in French: — 'La destruction des mauvaises herbes dans les céréales au moyen de produits chimiques'].

NIKITINA, T. F. The biology and ecology of *Hylemyia brassicae* Bouché in Gorki[a] Province. *Plant Protection*, Leningrad, 1938, No. 17, pp. 79-[85]. [Bibliography], p. [85].
[In Russian, with title also in English].

NISIKADO, Yosikazu, und HIRATA, Kôdi. On the specific gravity methods in grading the wheat seeds, as a control-means for the seedling blight, caused by *Gibberella Saubinetii* (Mont.) Sacc. *Berichte des Ōhara Instituts für landwirtschaftliche Forschungen*, Kurashiki 1938, Bd. VIII, Heft 2, S. [125]-145, figs. 1-4, pl. IX.

NISIKADO, Y[osikazu], HIRATA K[ôdi], und HIGUTI, T. Studies on the temperature relations to the longevity of pure culture of various fungi, pathogenic to plants. *Berichte des Ōhara Instituts für landwirtschaftliche Forschungen*, Kurashiki 1938, Bd. VIII, Heft 2, S. [107]-124, figs. 1-4. References, p. 124.

NOLTE, Hans-Werner. Die Laubheuschrecke Barbitistes constrictus Brunn. als Forstschädling. *Zeitschrift für angewandte Entomologie*, Berlin 1939, Bd. XXV, Heft 4, S. [642]-646, Abb. 1. Literatur, S. 645-646.

NOVIENKO, A. I., TREML, KUZNETSOV, and BYKHOVTSEVA. The distribution of granary mites in the field and in granaries and methods of their control. *Plant Protection*, Leningrad, 1938, No. 17, pp. 115-119.
[In Russian, with title also in English].

OLBERG, G. Die Hopfenseide, ein Schmarotzer. *Natur und Volk*, Frankfurt a. M. 1938, 68. Bd., Heft 9, S. 436-439, Bilde 1-4.
[*Cuscuta europaea*].

PARFENTIEV, V. J. *Rhyncolus culinaris* Germ. in the Volga region. *Plant Protection*, Leningrad, 1938, No. 17, pp. 132-134.
[In Russian, with title also in English].

PARNELL, F. R. Plant breeding and cotton insect pests. *Empire Cotton Growing Corporation. Third Conference on Cotton Growing Problems, September, 1938. Report and Summary of Proceedings*, London, 1938, pp. 81-85.

PESANTE, A[ldo]. Su di una leptonecrosi dell'olivo. *Rendiconti delle sedute della Reale Accademia Nazionale dei Lincei*, Classe di Scienze fisiche, matematiche e naturali, Roma, 1939, vol. XXIX, fasc. 1, pp. 37-39.
[Possibly a virus disease].

PESANTE, Aldo. Sopra una malattia dell'olivo sino ad ora sconosciuta. *L'Olivicoltore*, Roma, 1939, anno XVI, n. 3, pp. [5]-15, figg. 1-17, tav. I-II. Bibliografia, p. 15.
[A disease characterized by withering and leaf fall of the branches of the olive tree. The cause of this disease, studied by the writer in the environs of Rome, is not known, but it is possible that it is due to a virus].

PESANTE, Aldo. Une maladie de l'olivier jusqu'à présent inconnue. *Feuille d'Informations oléicoles internationales*, Rome, 1939, IV[ème] année nº 3, p. [57]-71, fig. 1-9. Bibliographie, p. 71.
[French translation of the paper cited above].

PEYRONEL, Beniamino. La forma basidiofora ("Helicobasidium purpureum" Pat.) della "Rhizoctonia violacea" in Italia. *Nuovo Giornale Botanico Italiano* (Nuova serie), Firenze, 1939, vol. XLVI, n. 1, pp. 146-148.

PHILLIPS, G. P. The naturalized species of Hakea. *Farming in South Africa*, Pretoria, 1938, Vol. XIII, No. 152, p. 424, 3 pls.
[*Hakea sericea* and *H. gibbosa*, *H. suaveolens* as weeds in South Africa].

PHILLIS, E., and MASON, T. G. On the use of selenized cotton as a poison bait. *Empire Cotton Growing Corporation. Third Conference on Cotton Growing Problems, September, 1938. Report and Summary of Proceedings*, London, 1938, pp. 85-86.

PINCKARD, J. A., and MCLEAN, Ruth. Paradichlorbenzol, an eradicant fungicide, effective against downy mildew of tobacco. *Phytopathology*, Lancaster, Pa., 1939, Vol. 29, No. 2, pp. 216-219, figs. 1-3.
[*Peronospora tabacina*].

PINCKARD, J. A., WOLF, F. A., MCLEAN, Ruth, DARKIS, F. R., and GROSS, P. M. Laboratory studies on toxicity of benzol vapors to tobacco seedlings and to Peronospora tabacina. *Phytopathology*, Lancaster, Pa., 1939, Vol. 29, No. 2, pp. 177-187, figs. 1-3. Literature cited, p. 187.

POPOVA, A. I. The San Jose scale. *Plant Protection*, Leningrad, 1938, No. 17, pp. 61-[77], figs. 1-13. [Bibliography], p. 76.
[In Russian, with title and summary also in English. — *Aspidiotus perniciosus*].

PRENTICE, A. N. Pest evasion in the Sabi Valley by out-of-season planting. *Empire Cotton Growing Corporation. Third Conference on Cotton Growing Problems, September, 1938. Report and Summary of Proceedings*, London, 1938, pp. 103-105.

PROFFT, J. Wanderungen und Flüge der Pfirsichblattlaus – Ausbreitungsmöglichkeiten der Kartoffelvirosen. *Nachrichtenblatt für den Deutschen Pflanzenschutzdienst*, Berlin 1939, 19. Jahrg., Nr. 2, S. 14-15. Schriftenverzeichnis, S. 15.
[*Myzus persicae*].

PRUTHI, Hem Singh, and NARAYANAN, E.S. A statistical study of the loss caused by borers and termites to mature sugarcane at Pusa in 1935 and 1936. *The Indian Journal of Agricultural Science*, Delhi, 1939, Vol. IX, Pt. 1, pp. 15-37, fig. 1. Reference, p. 31.
[*Scirpophaga nivella, S. monostigma, Diatraea sticticraspis, D. venosata, Chilo zonellus, Emmalocera depressella, Odontotermes assumthi*].

RADA, Germán García. La primera infección por la roya negra de los campos de trigo en cada año, en la Estación Experimental Agrícola de la Molina. *La Vida Agrícola*, Lima-Perú, 1938, vol. XV, nº 178, págs. [723] a 726, 3 figs., 1 mapa.
[*Puccinia graminis tritici*].

RADEMACHER, Bernhard. Über die Milderung der Läuseschäden (Doralis fabae Scop.) bei Pferdebohnen durch Frühsaat, Voranzucht und Anbau als Winterfrucht. *Zeitschrift für Pflanzenkrankheiten (Pflanzenpathologie) und Pflanzenschutz*, Stuttgart 1939, 49. Bd., Heft 3, S. 144-160, Abb. 1-5. Schriftenverzeichnis, S. 159-160.

RANGEL, Jefferson Firth, e GOMES, Jalmirez Guimarães. Guia para reconhecimiento e combate das principais doenças e pragas da laranieira. *Ministério da Agricultura. Departamento Nacional da Produção Vegetal. Serviço de Defesa Sanitaria Vegetal. Publicação Nº 11*, Rio de Janeiro, 1938, 78 pags., 32 figs., 7 est. Bibliografia consultada, pags. [65]-67.

RAO, Y. Ramchandra, and BHATIA, Desraj. On the probability of seasonal migration among the solitary phase individuals of *Locusta migratoria* in North-West India. *The Indian Journal of Agricultural Science*, Delhi, 1939, Vol. IX, Pt. 1, pp. 79-107, pl. V, 1 map. References, p. 99.

REICHMUTH, Werner. Untersuchungen über die Brauchbarkeit von Meerzwiebelpräparaten zur Mäusebekämpfung. *Zeitschrift für hygienische Zoologie und Schädlingsbekämpfung*, Berlin 1939, 31. Jahrg., Heft 3, S. 76-91.

RIPLEY, L. R., and PETTY, B. K. Aeroplane dusting against wattle bagworm. *Farming in South Africa*, Pretoria, 1938, Vol. XIII, No. 152, p. 423.
[*Acanthopsyche junodi*].

ROGERS, L. H., GALL, O. E., and BARNETTE, R. M. The zinc content of weeds and volunteer grasses and planted land covers. *Soil Science*, Baltimore, 1939, Vol. 47, No. 3, pp. 237-243. References, pp. 242-243.

RUBTSSOV, I. A. The effect of constant and variable temperatures on the development of the eggs of the gipsy moth (*Porthetria dispar* L.). *Plant Protection*, Leningrad, 1938, No. 17, pp. 25-38, figs. 1-4. [Bibliography], p. 24.
[In Russian, with title and summary also in English].

RUEST, Carlos. Algo sobre plagas y enfermedades del cafeto. *Revista Agrícola*, Guatemala, 1938, vol. XV, núm. 8, págs. 330 a 335, figs. 2-8.
[*Stephanoderes hampei*, *Stilbum flavidum*].

SATTLER, Helmut. Die Entwicklung der Nonne, Lymantria monacha, in ihrer Abhängigkeit von der Nahrungsqualität. *Zeitschrift für angewandte Entomologie*, Berlin 1939, Bd. XXV, Heft 4, S. [543]-587, Abb. 1-29. Schriftenverzeichnis, S. 586-587.

SCOTT, R. J. Mosaic diseases of the potato. *The Scottish Journal of Agriculture*, Edinburgh, 1938, Vol. XXI, No. 2, pp. 121-132. References, p. 132.

SEDLACZEK, Walter. Vorschläge zur Bekämpfung und Verhinderung von Schäden durch die Tannenläuse (Dreyfusia spec.). *Centralblatt für das gesamte Forstwesen*, Wien 1938, 64. Jahrg., Heft 7/8, S. 194-199.

SERVAZZI, Ottone. Comunicazione preliminare sulla cosidetta « defogliazione primaverile dei pioppi ». *Nuovo Giornale Botanico Italiano* (Nuova serie), Firenze, 1938, vol. XLV, n. 4, pp. 614-616.
[On the leaves and withered and curved tips of the Canadian poplar – ill-defined botanical entity – the writer observed a large number of conidia of a new species of *Pollaccia* – quite different from *P. radiosa* = *Fusicladium radiosum* (see this *Bulletin*, 1937, No. 12, p. 280). — The writer considers this new species as the sole cause of the spring leaf fall and apical withering of the shoots of the Canadian poplar. On the branches of this tree, withered during the previous year, the winter also found the perfect stage of the new *Pollaccia*, a *Venturia* with characteristics differing distinctly from those of *V. tremulae* considered as the perfect stage of *P. radiosa*].

SIDELNIK, I. Poisoned baits in the control of Tenebrionids. *Plant Protection*, Leningrad, 1938, No. 17, pp. 131-132.
[In Russian, with title also in English].

SIEMASZKO, Wincenty, et JAWORSKI, Jerzy. La coloration du substratum dans les cultures de *Beauveria globulifera* (Speg.) Picard et les bactéries. *Bulletin trimestriel de la Société mycologique de France*, Paris, 1938, tome LIV, fasc. 3 et 4, p. [245]-250. Bibliographie, p. 249-250.

SINGH, B. N., and SINGH, L. B. Relative absorption of nutrients by weeds of arable land. *Soil Science*, Baltimore, 1939, Vol. 47, No. 3, pp. 227-235. References, p. 235.

SMITH, A. M., and PATERSON, W. Y. The examination of variety and virus disease in potato tubers by a chemical test. *The Scottish Journal of Agriculture*, Edinburgh, 1938, Vol. XXI, No. 3, pp. 240-248. References, p. 248.

SOLACOLU, Th., [et] CONSTANTINESCO, M. et D. Action de la colchicine sur les tumeurs végétales provoquées pour le *Bacillus tumefaciens*. *Comptes rendus des séances de la Société de Biologie et de ses filiales et associées*, Paris, 1939, tome CXXX, nº 11, p. 1148-1150.

SQUIRE, F. A. Early larval mortality of Platyedra gossypiella (Saund.). *Empire Cotton Growing Corporation. Third Conference on Cotton Growing Problems, September, 1938. Report and Summary of Proceedings,* London, 1938, pp. 114-115.

SQUIRE, F. A. The survival of the pink bollworm in the field. *Empire Cotton Growing Corporation. Third Conference on Cotton Growing Problems, September, 1938. Report and Summary of Proceedings,* London, 1938, pp. 126-128.
[*Platyedra gossypiella*].

STRAIB, W. Der Einfluss des Entwicklungsstadiums und der Temperatur auf das Gelbrostverhalten des Weizens. *Phytopathologische Zeitschrift,* Berlin 1939, Bd. XII, Heft 2, S. [113]-168, Abb. 1-4. Schriftenverzeichnis, S. 167-168.
[*Puccinia glumarum*].

SUIT, R. F., and HORSFALL, J. G. A simple method of measuring the interfacial friction of dusted seeds. *Phytopathology,* Lancaster, Pa., 1939, Vol. 29, No. 2, pp. 200-204.

SZIRMAI, Johann. Untersuchungen und Beobachtungen an "Necrotic Virus", in Zusammenhang mit dem Pilz *Thielavia basicola* Zopf. *Phytopathologische Zeitschrift,* Berlin 1939, Bd. XII, Heft 2, S. [219]-227, Abb. 1-7. Schriftenverzeichnis, S. 227.

THARP, W. H., and YOUNG, V. H. Relation of soil moisture to Fusarium wilt of cotton. *Journal of Agricultural Research,* Washington, D. C., 1939, Vol. 58, No. 1, pp. 47-61, figs. 1-4. Literature cited, p. 61.
[*Fusarium vasinfectum*].

THUNG, T. H. De epidemiologie van de Phytophthora parasitica var. nicotianae op de vorstenlandsche tabaksondernemigen. *Proefstation voor Vorstenlandsche Tabak Mededeeling No. 86,* [Klaten, Java], 1938, blz. 1-55, schets A, photo 1. Aangehaalde literatuur, blz. 54-55.
[In Dutch, with title and summary also in English:— 'The epidemiology of the Phytophthora disease on the Vorstenlanden estates'].

TOMPKINS, C. M. Two mosaic diseases of annual stock. *Journal of Agricultural Research,* Washington, D. C., 1939, Vol. 58, No. 1, pp. 63-77, figs. 1-7. Literature cited, pp. 76-77.
[A disease attacking *Matthiola incana* var. *annua*].

TOMPKINS, C. M. A mosaic disease of radish in California. *Journal of Agricultural Research,* Washington, D. C., 1939, Vol. 58, No. 2, pp. 119-130, figs. 1-5. Literature cited, pp. 129-130.
[On *Raphanus sativus*].

TOMPKINS, C. M., GARDNER, M. W., and THOMAS H. Rex. Black ring, a virus disease of cabbage and other crucifers. *Journal of Agricultural Research,* Washington, D. C., 1938, Vol. 57, No. 12, pp. 929-943, figs. 1-6. Literature cited, pp. 942-943.
[On *Brassica oleracea* varr. *capitata, gemmifera, botrytis*].

TROTTER, A[lessandro]. I Ficomiceti parassiti della pianta del tabacco. *Bollettino Tecnico del R. Istituto Sperimentale per le Coltivazioni dei Tabacchi "Leonardo Angeloni",* Scafati, 1938, anno XXXV, n. 4, pp. [187]-219, figg. I-X, tav. I-IV.
[With title and summary also in English:— 'Phycomycetes of the tobacco plant'. — *Olpidiaster radicis, Olpidium brassicae, O. nicotianae, Pythium aphanidermatum, P. butleri, P. de baryanum, P. deliense, P. myriotylum, P. nicotianae, P. perniciosum, P. pleosporon, P. polyandrum, P. polymorphon,*

P. splendens, P. vexans, Phytophthora nicotianae, P. parasitica var. *macrospora, P. tabaci, Peronospora nicotianae, P. tabacina.* The most serious Phycomycetes of tobacco (*Phytophthora* and *Peronospora*) do not occur at present in Italian tobacco fields.

A copious bibliography is given at the foot of each page].

UVAROV, B. P., and MILNTHORPE, W. The locust outbreak in Africa and western Asia in 1937. Preface by Francis Hemming. H. M. S. Office Publication [No.] 63-80–7. London, 1939, 64 pp., 9 maps. Bibliography of literature on locusts and grasshoppers and on their control for 1937, pp. 47-63. (Economic Advisory Council. Committee on Locust Control).

[*Schistocerca gregaria, Locusta migratoria migratorioides, Nomadacris septemfasciata, Patanga succincta*].

VAN DER POEL, J. Overzicht van de thans verkregen resultaten bij het onderzoek naar den invloed van verschillende meststoffen op de slijmziekte. *Mededeelingen van het Deli Proefstation te Medan-Sumatra,* Medan 1938, tweede serie, no. XCIX, 31 blz, Geraadpleegde literatuur, blz. 30-31.

[In Dutch, with title and summary in English:— 'The influence of fertilizers on slime disease'. — *Bacterium solanacearum*].

VARSHAVSKI, S. N. The fluctuation in fecundity of the small suslik (*Citellus pygmaeus* Pall.). *Plant Protection,* Leningrad, 1938, No. 17, pp. 3-[13]. [Bibliography], pp. 11-[13].

[In Russian, with title and summary also in English].

VASSEUR, R. E. L'influence de la température de l'humidité de l'air sur le développement du tétranyque du coton. *Plant Protection,* Leningrad, 1938, No. 17, pp. 39-[51], figs. 1-3. [Bibliography], pp. 50-[51].

[In Russian, with title and summary also in French. — *Epitetranychus althaeae*].

VELTISCHEV, P. A. On the ecology of the solitary phase of the Moroccan locust under the conditions of Highland Karabakh, Trans-Caucasus. *Plant Protection,* Leningrad, 1938, No. 17, pp. 127-131. [Bibliography], p. 131.

[In Russian, with title also in English. — *Dociostaurus maroccanus*].

VINOKUROV, G. M. On the lowering of the norms poison baits for the control of grasshoppers. *Plant Protection,* Leningrad, 1938, No. 17, pp. 124-127.

[In Russian, with title and summary also in English].

VISOCCHI, Vincenzo. La ticchiolatura del pomodoro. *L'Italia Agricola,* Roma, 1938, anno 75, n. 10, pp. [684]-689.

[*Cladosporium fulvum*].

VOLGIN, V. I. List of granary mites in the Smolensk region. *Plant Protection,* Leningrad, 1938, No. 17, pp. 119-121.

[In Russian, with title also in English].

v. BÉKÉSY, Nikolaus. Über parasitische Mutterkornkulturversuche. *Zentralblatt für Bakteriologie, Parasitenkunde und Infektionskrankheiten,* II. Abt., Jena 1938, 99. Bd., Nr. 14/17, S. 321-332, Abb. 1-8. Schrifttum, S. 331-332.

[*Claviceps purpurea*].

WAGENER, Willis W. The canker of Cupressus induced by Coryneum cardinale n. sp. *Journal of Agricultural Research,* Washington, D. C., 1939, Vol. 58, No. 1, pp. 1-46, figs. 1-10. Literature cited, pp. 44-46.

[With Latin diagnosis of the new fungus living on *Cupressus* spp.].

WALLACE, C. R. Unpoisoned baits for reducing populations of banana beetle borer (Cosmopolites sordidus). *The Journal of the Australian Institute of Agricultural Science,* Sydney, 1938, Vol. 4, No. 3, pp. 157-160.

WALKER, J. C. Internal black spot of garden beet. *Phytopathology*, Lancaster, Pa., 1939, Vol. 29, No. 2, pp. 120-128, figs. 1-4.
[There is no pathogenic parasite involved as a fundamental causal entity].

WALKER, J. C. Freezing injury to canning peas. *Phytopathology*, Lancaster, Pa., 1939, Vol. 29, No. 2, pp. 188-194, figs. 1-5.

WALKER, J. C., LARSON, R. H., and ALBERT, A. R. Studies of resistance to potato scab in Wisconsin. *American Potato Journal*, Somerville and New Brunswick, N. J., 1938, Vol. 15, No. 9, pp. [246]-252, fig. 1.
[*Actinomyces scabies*].

WANG, C. S. The formation of chlamydospores of Ustilago crameri Kcke. on artificial media. *Phytopathology*, Lancaster, Pa., 1938, Vol. 28, No. 11, pp. 860-861.

WARD, F. S. Cercospora leaf spot of bananas. *Department of Science & Agriculture, Jamaica. Bulletin No. 15* (*New Series*), Jamaica, 1938, 7 pp., 6 figs. References, p. 7.
[*Cercospora musae*].

WARD, Keighley M. Codling moth control experiments, 1937-38. *Queensland Agricultural Journal*, Brisbane, 1938, Vol. L, Pt. 3, pp. 286-294. pl. 76. References, p. 294.
(*Cydia pomonella*].

WEIHING, Ralph M., ROBERTSON, D. W., and COLEMAN, O. H. Survival of several alfalfa varieties seeded on irrigated land infested with bacterial wilt [*Phytomonas insidiosa* (McCulloch) Bergey, et al.]. *Colorado State College. Colorado Experiment Station. Technical Bulletin 23*, Fort Collins, Colorado, 1938, 12 pp. Literature cited, p. 12.

WELTON, F. A., and CARROLL, J. C. Crabgrass in relation to arsenicals. *Journal of the American Society of Agronomy*, Geneva, N. Y., 1938, Vol. 30, No. 10, pp. 816-826, fig. 1.
[*Panicum sanguinale*].

WENZL, Hans. Fleckenbildungen, Nekrosen und Wachstumsstörungen an Aprikosenblättern. *Zeitschrift für Pflanzenkrankheiten* (*Pflanzenpathologie*) *und Pflanzenschutz*, Stuttgart 1938, 48. Bd., Heft 12, S. 589-592, Abb. 1-3. Schriftenverzeichnis, S. 592.

WENZL, Hans. Schützt die Mosaikkrankheit der Rübe gegen Befall durch *Cercospora beticola*? *Phytopathologische Zeitschrift*, Berlin 1939, Bd. XII, Heft 2, S. 228-229.

WHITCOMB, W. D. The carrot rust fly. *Massachusetts Agricultural Experiment Station. Bulletin No. 352*, Amherst, Mass., 1938, 36 pp., 3 figs., 4 pls. Literature cited, p. 36.
[*Psila rosae*].

WILCOX, Marguerite S. Phomopsis twig blight of blueberry. *Phytopathology*, Lancaster, Pa., 1939, Vol. 29, No. 2, pp. 136-142, figs. 1-2. Literature cited, p. 142.
[*Phomopsis vaccinii* on *Vaccinium corymbosum*].

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PRINTING OFFICE 'CARLO COLOMBO' — ROME, MAY 16, 1939.

Bunce, A. C. Economic nationalism and the farmer. Ames, Iowa, Collegiate press. 1938. IX, 232 p.

Cacaud, L. Le warrant agricole. Rennes, Imprimeries réunies, 1938. 197 p.

Caterini, F., L. Ugolini. Il libro degli uccelli italiani, manuale di ornitologia italiana. Elenco descrittivo delle specie stazionarie e di passo. [Firenze], Edizioni Diana, [1938]. XXIII, 569 p.

Chasset, L. Manuel d'arboriculture fruitière. Villefranche, Impr. du « Réveil du Beaujolais », 1938. 247 p.

Confederazione fascista dei lavoratori dell'agricoltura. La concezione fascista della proprietà privata. [Roma, Arte della stampa, 1939]. 640 p.

Dairy industries catalog of equipment, supplies and services used by dairy products manufactures, etc. 12th annual edition. Milwaukee, Wisconsin, The Olsen publishing co., 1939.

Davis, J. On agricultural policy, 1926-1938. Stanford University, Food research institute, [1939]. VIII, 494 p. (Stanford University. Food research institute. Miscellaneous publications, nº 9.)

Del Bo, C. Corso di agraria per gli studenti di ingegneria, a cura del Dott. Giacomo Maghini. Milano, Biazzi, 1938. 2 v. (Edizioni del G. U. F. « Ugo Pepe » di Milano.)

Espe, Dwight, L. Secretion of milk. Ame, Iowa, Collegiate press, 1938. XIV, 265 p.

Fantini, O. Autarchia economica e politica alimentare. Firenze, Casa editrice poligrafica universitaria, 1937. 49 p. (Estratto dalla raccolta di studi in memoria di Giovanni Dettori.)

Farm implement news buyer's guide. v. 48. Chicago, 1939. 384 p.

Friedmann, G. Fertirrigazione. Un nuovo metodo che consente di aumentare, e spesso triplicare e quintuplicare, la produzione agraria. Milano, U. Hœpli, 1939. 122 p.

Ghigi, A. Per l'avicoltura italiana; un trentennio di studi e discussioni. Bologna, N. Zanichelli, 1939. VIII, 252 p.

Glover, P. M. Lac cultivation in India. Being a 2nd. and revised edition of « A practical manual of lac cultivation » by P. M. Glover published in June 1931. Namkum, Indian lac research institute. 1937. [8], 147 p.

Grande Bretagne. Imperial bureau of soil science. Bibliography of soil science, fertilizers and general agronomy, 1934-1937. Harpenden, 1938. XV, 540 p.

Heald, S. Documents on international affairs 1937. London, Oxford univ. press, 1939. 850 p.

Hellbo, E. H., Esbo Systematisk behandling av våra potatissorter Stockholm, Lantbrukssällskapets tidskriftsaktiebolag, 1938. 111 p., [Complete Handbook of potato varieties.]

Hill, W. W. The agricultural and hunting methods of the Navaho Indians. New Haven, Yale university press, 1938. 194 p. (Yale university publications in anthropology, nº 18).

Indicateur de la production française. Publié sous le patronage du Ministère du commerce et du Ministère des affaires étrangères 1938. 21ème année de publication. Paris, Association nationale d'expansion économique, [1938]. 986, 8 p.

International cotton statistics. Consumption of cotton for half-year ending 31st January 1939. Manchester, 1939. 28 p. [International federation of master cotton spinners' and manufacturers associations.]

Kathol, W. « Bassmes » Hof; sauerländisches Bauernleben vor hundert Jahren. Meschede, Wagener, 1938. 167 p.

Karachi cotton annual 1937/38. No. 5. Karachi, Karachi cotton association, [1939]. (La Molina, Estacion exp. agricola. Memoria 1937. Lima, 1938.)

Kemmer. E. Grundlagen der Bodenpfege im Obstbau; Düngung, Bodenbearbeitung, Bewässerung Berlin, P. Parey, 1938. VII, 240 p.

Körner, H., G. Claus. Wege zur Leistung in der Erzeugungsschlacht. Berlin, Reichsnährstand Verlags-Ges. m. b. H., [1938]. 110 p.

Lefèbvre, A. Les engrais. Comment les acheter et les utiliser avec le minimum de frais et le maximum de bénéfices. [Paris], Flammarion, [1938]. 382 p. (La terre. Encyclopédie paysanne dirigée par J. Le Roy Ladurie. 5.)

Medici, L., P. Guerritore. Compendio di chimica agraria ad uso degli istituti tecnici agrari. 2ª ed. Milano, Società an. ed. Dante Alighieri, 1939. VII, 335 p.

Melanges dédiés à M. le Prof. Henry Trouchy. Paris, Recueil Sirey, 1938. XIV, 548 p.

Milhau, J. Prix et production en agriculture; étude économétrique de quelques marchés agricoles. Paris, Recueil Sirey, 1938. XIII, 77 p. (Paris. Institut scientifique de recherches économiques et sociales. Mémoires et enquêtes, 5.)

The **New York** State horticultural society. Proceedings of the 84th Annual meeting of the New York State horticultural society held at Rochester, New York, January 10-13 Eastern meeting at Kingston 25-27 1939. Le Roy, N. Y., Press of the Gazette news co., 1939 423 p.

Pernice, H. Saatbau von Futterpflanzen in Ostpreussen. Königsberg, Reichsnährstand Verlags. Zweigniederlassung Ostpreussen [1938]. 73 p.

Queensland cotton board. General Manager's annual report. Season 1938. [Brisbane, 1938]. 19 p.

Robert, J. C. The tobacco kingdom; plantation, market, and factory in Virginia and North Carolina, 1800-1860. Durham, Duke university press, 1938. XIII, 286 p. (Duke university publications.)

Rossoni, E. Direttive fasciste all'agricoltura. Roma, « La stirpe », 1939. 169 p.

Royal agricultural society of England. The Journal of the Royal agricultural society of England including the farmer's guide to agricultural research. v. 99. London, J. Murray, 1938.

Rudolph, G. Führer durch die Getreidemarktordnung für den deutschen Bauern. Berlin, Reichsnährstand Verlags-Ges. m. b. H., [1938]. 116 p.

Salvarezza, M. L'analisi del vino e la ricerca delle sofisticazioni (mosti, filtrati, vini). Ed. completamente rifatta del manuale di Arturo Marescalchi sullo stesso argomento. Casale Monferrato, F.lli Marescalchi, 1938. VIII, 230 p. (Manuali Marescalchi).

Sander, O. Pflanzenvermehrung; ihre Grundlagen, Richtlinien und praktischen Massnahmen im Gartenbau. Berlin, P. Parey, 1938. 88 p. (Die gärtnerische Berufspraxis 12.)

Sapper, K. Beiträge zur Kenntnis der Besitzergreifung Amerikas und zur Entwicklung der altamerikanischen Ladwirtschaft durch die Indianer. Mit Uebersetzungen von Hermann Triborn. Hamburg, Friederichsen, De Gruyter & C. 1938. 44 p. (Mitteilungen aus dem Museum für Völkerkunde in Hamburg, 19.).

Schmitt, C. Der Obstgarten. Leipzig, Quelle & Meyer, [1938]. 32 p. (Lebensgemeinschaften der deutschen Heimat, von Cornel Schmitt.)

Schlesselman, G. The geography of the Lake Calvin region of Iowa, with emphasis on land utilization. College Station, Agricultural and mechanical college, Texas, 1938. 123 p.

Schünke, W. Marsch und Geests als Siedlungsboden im Lande Grosshadeln. Kiel, [s. e.] 1938. 142 p. (Schriften des Geographischen Instituts der Universität Kiel. Bd. 8, Hft. 2.)

Scofield, E. Landschaften am Kurischen Haff. Kiel [Buchdruckerei Schmidt & Klaunig], 1938. VII, 86 p. (Schriften des Geographischen Instituts der Universität Kiel... Bd. 9, Hft. 1.)

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